REMARKS UNDER 37 C.F.R. 1.111

Reconsideration and allowance are respectfully requested.

The applicant appreciates the thorough review of the application by the examiner and appreciates the interview courteously granted to the applicant and his counsel on April 15, 2003.

New claims 133-143 all relate to Species 1. Claims 1, 34, 67, 82, 88, 93, 97, 111, 112, 118, 123, 131, 132, 133, 134, 139, 140, 141, 143, 143, 144, 149, 150 and 158, for example, are allowable generic claims.

The changes to the drawings and claims overcome objections of the examiner. The examiner's suggestions for changes to the claims to overcome the §112 objections are appreciated and have been accomplished.

Three patent references have been cited and applied by the examiner, and one patent publication has been applied.

Reed has a scintillating optical fiber 20 with aligned sections and dichroic mirrors 22 and an extension fiber 40, but does not have a single fiber or multiple fibers optically coupled to a scintillator.

Bourdinaud has a thin plate 2 of scintillating material which receives radiation through one edge 8, and has fluorescent fibers 4 attached longitudinally along the plate. The fluorescent fibers 4 have portions 6 which are parallel, adjacent and attached to one of the two faces of the plate. The fluorescent fibers are excited by light on the plate.

Meisner has a photomultiplier within the drill head and sends electrical signals to the surface.

Kaufman has delay line 42 in a catheter which sends electrical signals to a proximal end. Nothing in the references shows or suggests the invention as described in the claims under consideration.

It is understood from the rejection in paragraph 8 that Bourdinaud is extraneous because all of the following sentences discuss Reed.

Reed does not have the structure as described in the claims of the application, because Reed has a single optic extension fiber which is attached in continuation of a scintillating fiber. Reed has an extension fiber 40 and several sections of the scintillating fiber 20 with dichroic mirrors 22 therebetween. Reed does not have fibers connected to an scintillator, does not have photocouplers, and does not have coupling lens arrays as described in the claims.

With regard to the rejections of the claims in paragraph 9 of the office action, the applicant traverses the examiner's holding of well known without citing art, and requests that those rejections be withdrawn.

With regard to the rejections in paragraph 10 of the office action, it is requested that no combination of Bourdinaud and Reed be made. The law is replete with holdings that an examiner may not pick elements from references and combine them without some suggestion for their combination arising in the references

themselves. Bourdinaud and Reed would have been mutually exclusive because Bourdinaud uses fluorescing cores in fibers to autogenerate wave lengths after a thin scintillator plate receives radiation at its end. Nothing in Bourdinaud would have suggested combination with Reed.

Even if the references were so combined, both of the references lead away from the invention as specifically set forth in the claims. Bourdinaud's fluorescent fibers excited by light from one side of the scintillator plate has nothing to do with Reed or with the present invention. It is requested that the rejections in paragraph 10 be withdrawn.

The same request is made for the rejections based on a combination of references in paragraph 11 on page 14 of the office action. There is nothing inherent in the references which would have suggested their combination, and specifically nothing would have suggested the combination of Reed with Bourdinaud.

Meisner suggests placing a photomultiplier tube in the drill head, and thus would lead away from the invention and would lead away from combination with the other references.

It is requested that the rejections in paragraph 11 of the office action be withdrawn.

It is requested that the rejections in paragraph 12 be withdrawn. Kaufman places a catheter in body lumen next to radioactively labelled regions. Kaufman has a delay line 42 in the catheter head which sends electrical signals to a signal processor outside the catheter, and thus would have lead away

from the present invention even had it been combined with Reed. There is absolutely nothing in Kaufman or Reed which would have suggested their mutual combination in a manner proposed by the examiner.

It is requested that the rejection in paragraph 12 be withdrawn.

The newly added claims fall within Species 1 and distinguish the invention from the prior art by specifically pointing out the fiber or fibers attached to a relatively large scintillator with optical couplings or lens arrays, which are not found in the references, and other features specifically pointed out in the new claims.

SUMMARY

The drawings have been corrected as suggest by the examiner, and the claims have been corrected as suggest by the examiner. New claims that have been submitted fall within Species 1.

CONCLUSION

Reconsideration and allowance of all claims is requested.

Respectfully,

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June 16, 2003